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TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT: ECONOMIC SIGNIFICANCE 2000

by
Scott Goldsmith

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Institute of Social and Economic Research
University of Alaska Anchorage
3211 Providence Drive
Anchorage Alaska 99508
907-786-7710
http://www.iser.uaa.alaska.edu

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1. SUMMARY OF FINDINGS

Employment at the Ted Stevens Anchorage International Airport in 2000 is estimated at 9,119 (annual average), generating an annual payroll of $367 million. This represents about 7% of all the wage and salary jobs in Anchorage and 8% of total payroll. Adding the offsite jobs generated by airport businesses making purchases and workers spending their earnings within the community, the total economic significance of the airport grows to 14,750 jobs with a payroll of $515 million. If the airport were a separate community it would be the 5th largest economy in the state.

The airport is about 5 times the size one would expect for a community of 260 thousand, but only partly because most of the travel between Anchorage and the rest of the US is by air. Most of the activity at the airport is associated with international air cargo, non-Alaska visitors, and non-Anchorage residents of Alaska. Together these activities at the airport, which bring new money into the economy and contribute directly to the economic base of Anchorage, account for 6,443 jobs and $259 million of payroll. Adding the offsite activity generated by these onsite jobs results in a total impact of these basic activities of 10,352 jobs and $361 million of payroll. By way of comparison, the headquarters activity of the oil and gas industry in Anchorage directly employed 3,515 in 1999 with a payroll of $316 million. Viewed this way it is clear that the basic activities at the airport are an important part of the economic base of the community.

Most of the growth in employment at the airport in recent years can be traced to growth in the international air cargo operations. The number of cargo landings has been growing at an annual average rate of 9 percent since 1990, reflecting a doubling in 8 years. As a consequence Anchorage was ranked as the 5th busiest cargo airport in the world in 2000 in terms of total cargo moving through the airport.

In contrast the number of passenger landings has been trending downward. Taking both cargo and passenger traffic together, the total number of revenue landings has not increased much through the 1990's but the cargo share has grown from 24 percent in 1990 to 44 percent in 2001.

Although the number of passenger landings has declined, the number of passengers served has continued to grow, albeit not as fast in the 1990's as in earlier times. Since 1990 the number of departing passengers has grown at an annual rate of 2.7 percent—twice the growth rate of the Anchorage population. This is primarily a reflection of the continuing growth in the number of non-resident visitors moving through the airport.

Employment associated with international air cargo operations has been increasing not only because of growth in the number of flights, but also because of a continued expansion in the value added services provided on the ground for each flight. Although many cargo flights are on the ground in Anchorage for only a short time to refuel and change crews, over time more services associated with the cargo are being performed on the ground such as customs clearance, sorting, trans-loading, and emplaning and deplaning of cargo.

As a consequence, air transport employment has increased by 37 percent since 1990 compared to just 15 percent for total employment. One in 10 wage and salary jobs added in Anchorage between 1990 and 1998 was in air transport. During the same period wages and salaries paid in the air transport industry increased by $95 million (1998 $), or 55 percent, compared to a total increase of $289 million for all industries. This growth was particularly important because wages and salaries actually fell in some industries such as petroleum.

Furthermore the real wage in the air transport sector increased over this period while it was dropping in many other industries. The wage in air transport is near the top of the list, exceeded in 1998 only by petroleum, the federal government (civilians), and construction.

As significant as these figures are, the contribution of the airport to the economy of the community and the state goes beyond the generation of jobs and payroll from providing air transport and other services. The airport is part of the transportation infrastructure that links Alaskans and Alaska businesses to each other and to the rest of the world. Without those links, the cost of doing business and the cost of living would both be much higher than they are today, precluding many economic activities and making Alaska a less attractive place to live and work. Although we cannot put a dollar figure on the value of this linkage, it is a benefit to the entire community.

2. INTRODUCTION

This brief report updates our previous studies--Anchorage International Airport 1998: Economic Significance and The Economic Contribution of the Anchorage International Airport, which documented the economic importance of the airport and described in detail the range of activities conducted at the airport. These activities are increasing at a rapid rate and this report documents the main components of this recent growth.

Ted Stevens Anchorage International Airport covers 4,700 acres and includes both domestic and international terminals as well as general aviation and air taxi bases around Lake Hood. Unlike airports in other US cities of comparable population size (about 260 thousand) most activity at Anchorage International revolves around the provision of services to the international air cargo industry, tourists and other visitors from outside Alaska, and Alaskans living outside the greater Anchorage region. The airport also is home to a number of government and private tenants who find it advantageous to locate close to air transport services.

Because of these functions, according to the Federal Aviation Administration, Anchorage has 3 times the passenger arrivals and 48 times the cargo arrivals one would expect, based on population. Clearly the airport is an important part of the economy of the region.

We begin this report by reviewing growth in measures of passenger and cargo activity at the airport. Next we calculate the number of jobs at the airport and the annual payroll associated with those jobs. We present the employment information broken down in several ways—by employer, by service provided, and by client served. We compare the size of the airport to other communities and track the increasing importance of the airport to the regional economy over the last 10 years. Next we calculate the total economic significance of the airport based on the total number of jobs in the community supported by airport activity. Following this calculation of the number of jobs that depend on the airport, we discuss the economic value of the airport to the community. Finally we include a section on "rules of thumb" which can be used to estimate the economic significance of new activities at the airport.

3. ACTIVITY AT THE AIRPORT

The core activities at the airport are the commercial movement of passengers and freight, but general aviation is also important. Furthermore there are a number of businesses and public agencies at the airport that find it advantageous to locate close to air transportation services.

The number and weight of commercial aircraft are the clearest indicators of the level of activity at the airport. In fiscal year (fy) 2000 (July 1999 to June 2000) total revenue landings were 92, 571, an average of 254 per day, and the total weight of the aircraft (certified maximum gross takeoff weight) was 26,447 million pounds. Measured by the weight of aircraft using the airport, the Ted Stevens Anchorage International Airport is one of the largest in the world. Airport operating revenues were $56.7 million.

Passengers

We estimate the number of people that will pass through the airport as passengers (arrivals, departures, and transits) in fy 2001 will he about 5,047,000 (Table 1.), or about 13,827 on a average day.

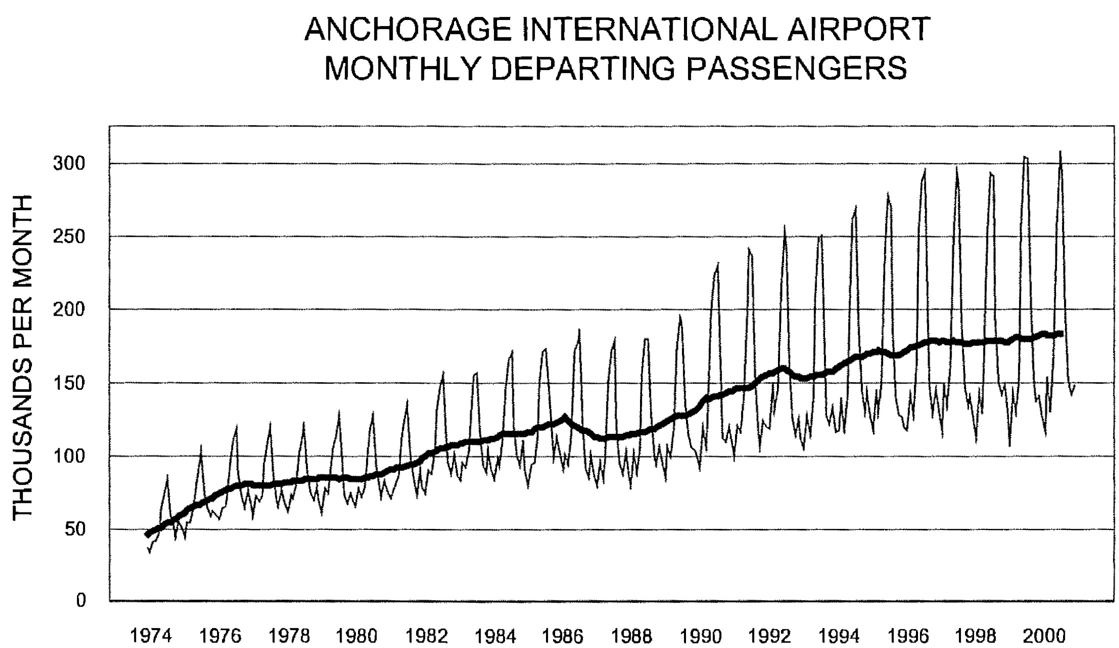
Table 1. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL PASSENGER ACTIVITY (thousands)

Fiscal Year	Passenger Departures (Enplanements)	Passenger Arrivals (Deplanements)	Transit	Total
1990	1,587	1,560	1,529	4,676
1991	1,729	1,744	1,069	4,542
1992	1,860	1,846	785	4,491
1993	1,836	1,832	577	4,245
1994	1,917	1,899	543	4,359
1995	2,040	2,039	598	4,677
1996	2,051	2,034	679	4,764
1997	2,132	2,135	782	5,049
1998	2,126	2,124	767	5,017
1999	2,136	2,113	688	4,938
2000	2,189	2,184	648	5,021
2001*	2,207	2,203	637	5,047

* Projection based on first half of year.
Source: Ted Stevens Anchorage International Airport

Passenger volume, as measured by the number of departing passengers, continues to trend upward in response to growth of the Anchorage and Alaska populations as well as the number of tourist and other visitors coming to the state (Figure 1.) Since 1990 the annual growth rate in the number of departing passengers has been 2.7 %. During this same period the population of Anchorage increased at an annual rate of only 1.4 %. The Greater Anchorage area (Anchorage plus the adjoining Matanuska Susitna Borough) grew at an annual rate of 1.9 %.

Figure 1.



Includes Scheduled Passengers on Domestic and International Carriers
Actual and Seasonally Adjusted Passengers
Source: Anchorage International Airport

In contrast, the growth rate in departing passenger traffic over the longer period starting in 1974 to the present has been considerably faster--4.6%, reflecting the faster economic growth in the 1970's and 1980's that resulted in rapid population and real personal income growth.

Several factors contribute to the large volume of passenger traffic through the airport compared to the population of the Greater Anchorage area (Anchorage plus the Matanuska-Susitna Borough had a population in 2000 of 319,605.)

First, almost all travel to the rest of the US from Anchorage is by air. Second, much of the travel within the state is by air, and Anchorage serves as a hub for much of this travel so that many travelers pass through Anchorage when going from one rural community to another. Third, Anchorage is the commercial center for much of the rest of the state and draws resident visitors for shopping, medical treatment, entertainment, and other activities.

In addition, a large share of the one million plus tourists visiting Alaska fly into or out of Anchorage. The growing importance of this market is reflected in the variation in the volume of traffic over the seasons of the year (Figure 1.). In recent years there have been twice as many departing passengers during the summer months compared to the winter. This seasonal pattern is becoming more accentuated over time as the visitor share of passenger traffic continues to grow.

The overwhelming majority of passengers (98 %) are carried on domestic airlines (Table 2.). Alaska Airlines, which operates both within Alaska and to destinations in other states, carries the largest volume with Delta, Northwest, and United providing most of the remaining service to the rest of the US. Within Alaska the other important passenger carriers are Era and Peninsula Airlines. Korean, Cathay Pacific, Asiana, and China Airlines are the most important international carriers.

Table 2. ANCHORAGE INTERNATIONAL AIRPORT ANNUAL PASSENGER DEPARTURES (thousands)

Fiscal Year	Domestic Carriers	International Carriers	Total
[illegible]	1,527	60	1,587
[illegible]	1,679	50	1,729
[illegible]	1,823	38	1,861
[illegible]	1,807	29	1,836
1994	1,889	28	1,917
[illegible]	2,014	26	2,040
[illegible]	2,018	35	2,053
1997	2,094	38	2,132
[illegible]	2,093	32	2,126
[illegible]	2,099	42	2,136
2000	2,154	37	2,189
2001*	2,171	36	2,207

* Projected based on 2nd half of year

Source: Ted Stevens Anchorage International Airport

Most passengers traveling on international carriers are simply in transit when visiting the Anchorage airport (Table 3.)

We estimate that only about 7 percent of the passengers on international carriers moving through Anchorage will deplane in fy 2001.

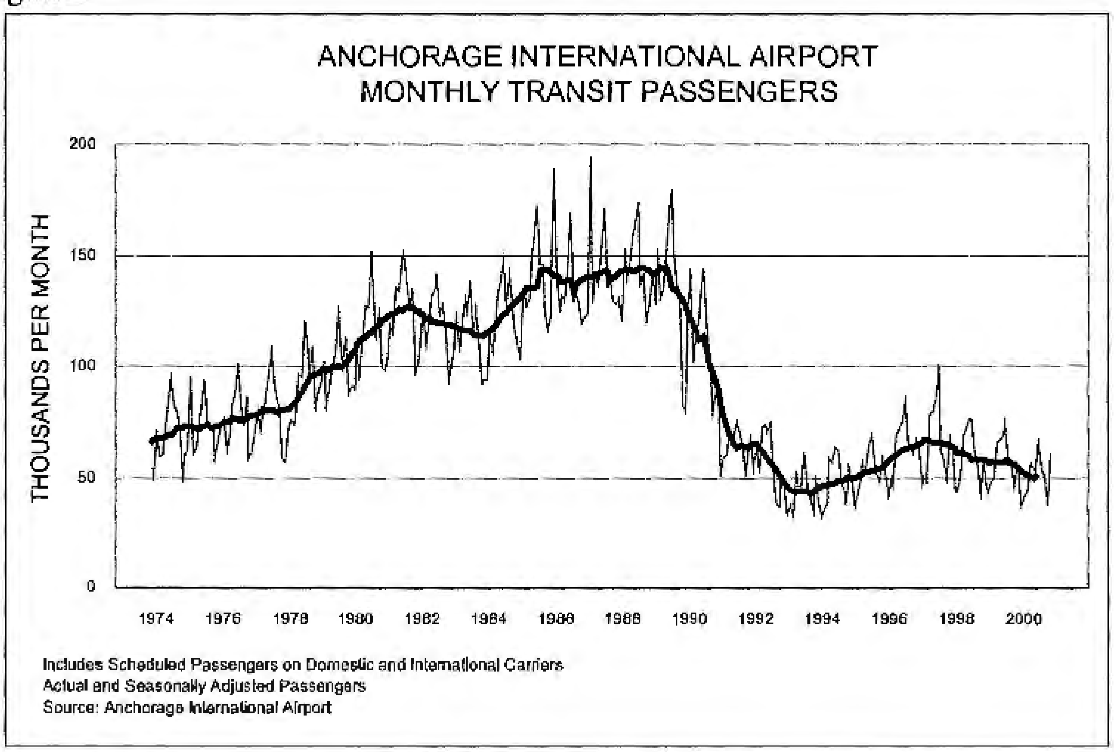
Table 3. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL TRANSIT PASSENGERS (thousands)

Fiscal Year	Domestic Carriers	International Carriers	Total
1990	142	1,387	1,529
1991	137	932	1,069
1992	173	612	785
1993	187	391	577
1994	194	348	543
1995	189	409	598
1996	171	507	679
1997	147	635	782
1998	165	601	767
1999	145	543	688
2000	148	500	648
2001*	142	495	637

* Projection based on first half of year.
Source: Ted Stevens Anchorage International Airport

Since dropping precipitously in the late 1980's due to introduction of longer-range aircraft, transit passenger traffic has now stabilized and has been relatively constant for the last several years (Figure 2.).

Figure 2.



Although the number of passengers served at the airport has been increasing, the number of passenger landings has been trending downward (Figure 3.) as has the gross weight of passenger aircraft landings (Figure 4.).

Figure 3.

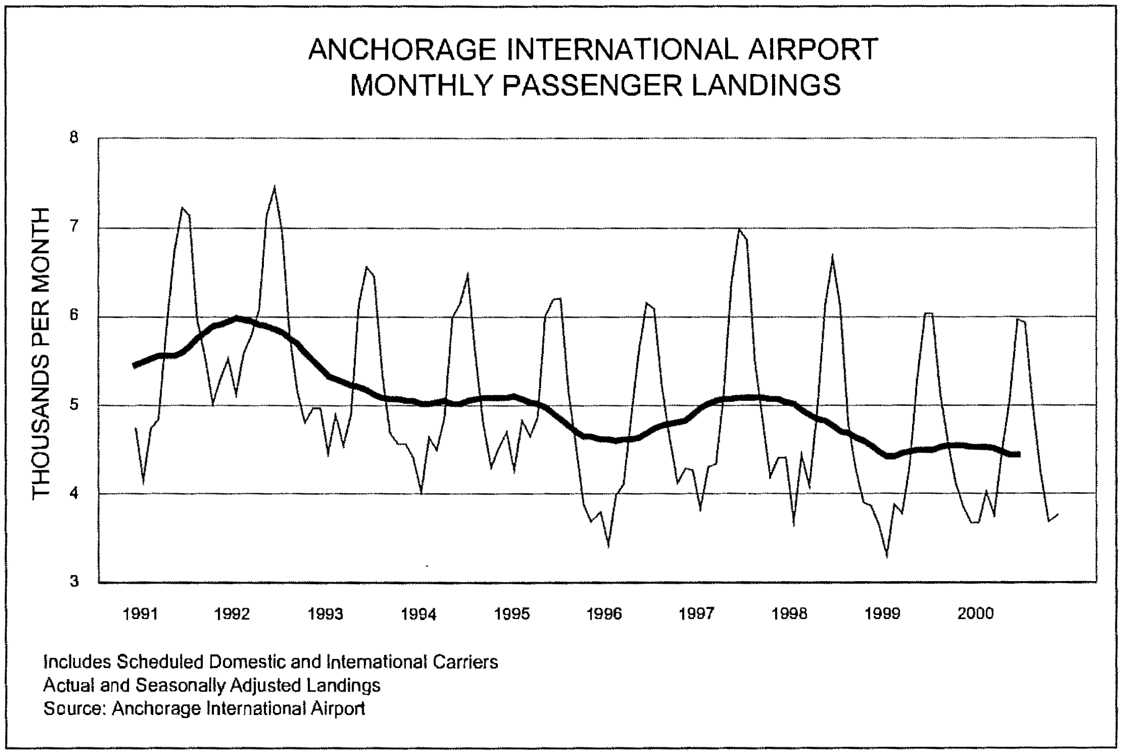
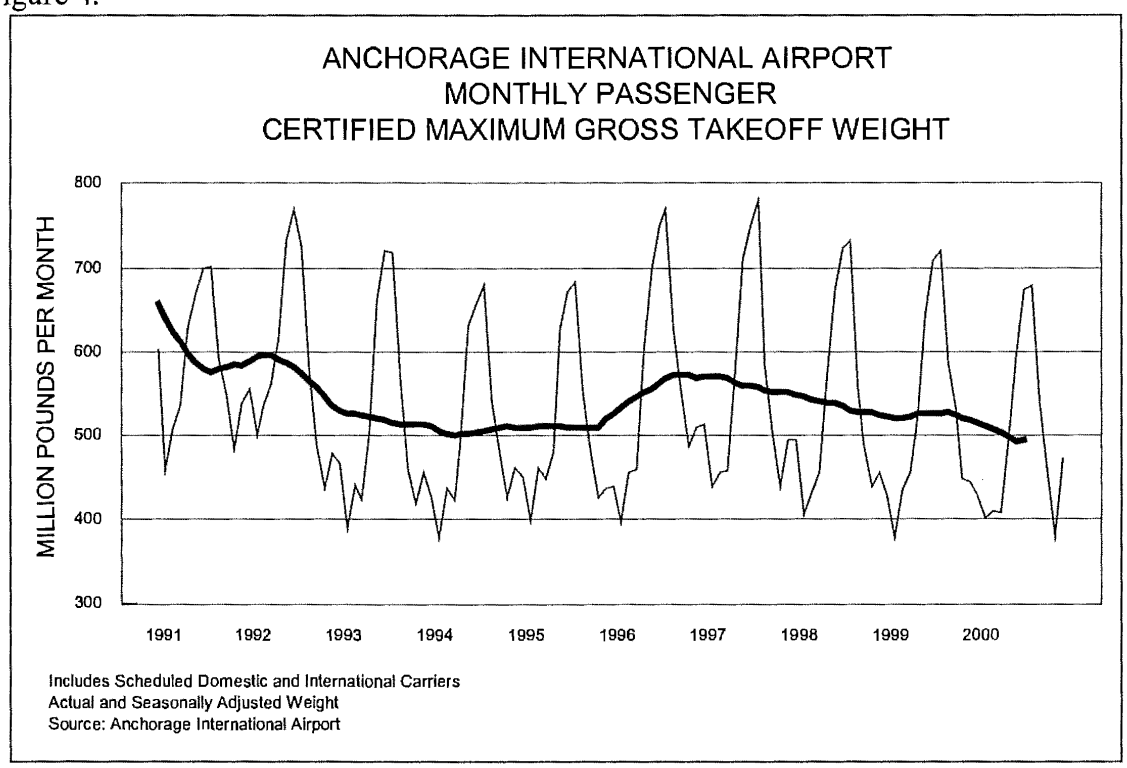


Figure 4.



For example in fy 1995 the number of passenger landings was 61,142 (Table 4) but we estimate that in fy 2001 the number will be 52,226—a reduction of 15 % in 6 years. This will represent 56% of the total number of revenue landings at the airport.

Table 4. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL PASSENGER FLIGHT LANDINGS (thousands)

Fiscal Year	Domestic Carriers	International Carriers	Total
1990	53,159	6,193	59,352
1991	60,887	4,581	65,468
1992	68,557	2,902	71,459
1993	62,889	2,197	65,086
1994	58,415	2,202	60,617
1995	58,844	2,298	61,142
1996	52,817	2,657	55,474
1997	55,351	3,369	58,720
1998	57,108	3,431	60,539
1999	50,857	2,957	53,814
2000	51,742	2,685	54,427
2001*	*	*	52,226

* Projection based on first half of year

Source: Ted Stevens Anchorage International Airport

Between 1995 and 2000 the weight of passenger aircraft initially jumped up but has been trending downward for most of this period (Table 5.), and we estimate 2001 to be 5,756 million tons. This will represent 27 % of the total certified maximum gross takeoff weight of commercial aircraft at the airport.

Table 5. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL PASSENGER FLIGHT WEIGHT (million pounds)			
Fiscal Year	Domestic Carriers	International Carriers	Total
1990,	4,395	4,397	8,792
1991	4,707	3,168	7,875
1992	5,139	1,926	7,065
1993	5,009	1,350	6,358
1994	4,720	1,409	6,128
1995	4,501	1,605	6,106
1996	4,498	1,815	6,313
1997	4,528	2,314	6,842
1998	4,398	2,193	6,591
1999	4,365	1,896	6,261
2000	4,385	1,795	6,180
2001*	-	-	5,756

* Projection based on first half of year.

Source: Ted Stevens Anchorage International Airport

Recent events that have impacted or will impact passenger traffic at the airport include:

- Additional summer non-stop domestic flights to different cities in the lower 48 states such as Newark, and
- Alaska Railroad construction of a terminal at the airport for moving passengers.

Cargo

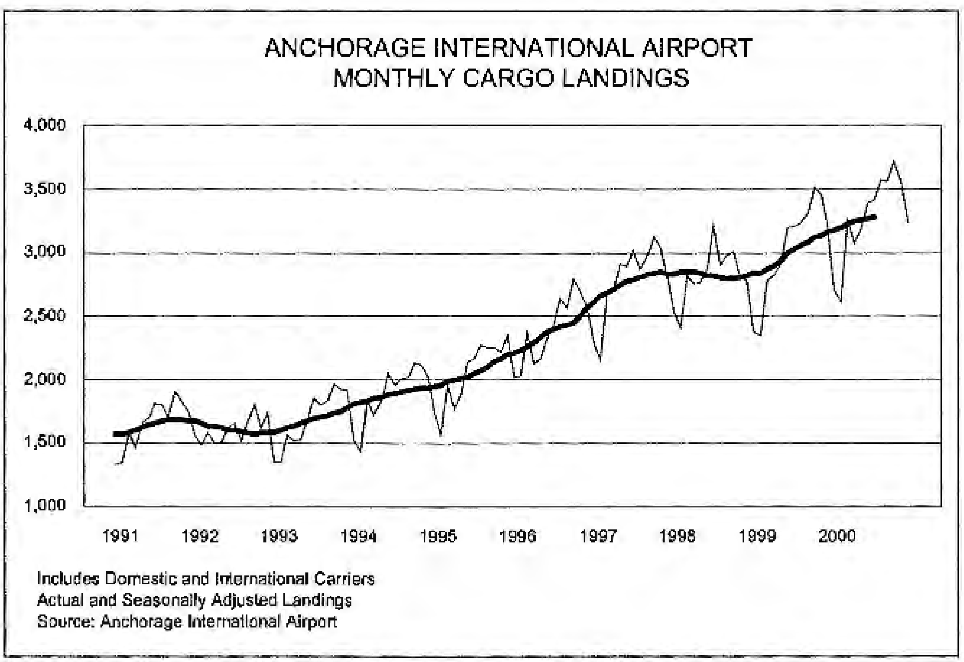
Cargo activity at the airport has been expanding rapidly for a decade and this has accounted for the majority of the total growth in activity at the airport. The airport does not have complete data on the weight or volume of cargo moving through Anchorage, but according to the Airport Council International, in 2000 Anchorage ranked 5th in the world in the weight of total cargo—including cargo in transit (Table 6.). This is in sharp contrast to a rank of 147th in the world in passenger traffic, and 46th in terms of total movements (commercial and non-commercial).

Table 6. ANCHORAGE INTERNATIONAL AIRPORT: RANK AMONG THE WORLD'S BUSIEST AIRPORTS CARGO 2000			
Rank	**Airport**	**Total Cargo (thousand metric tones)**	**% Change**
1	Memphis	2,489	3.2
2	Hong Kong	2,267	13.3
3	Los Angeles	2,054	5.9
4	Tokyo (NRT)	1,933	4.9
5	ANCHORAGE	1,884	10
6	Seoul	1,874	13.2
7	New York	1,826	5.7
8	Frankfurt	1,710	11.1
9	Singapore	1,705	12
10	Miami	1,642	-5

Total cargo: includes loaded + unloaded freight + mail. Anchorage includes transit freight
Source: Airport Council International at www.airports.org, 4/14/01

The annual growth rate in the number of cargo landings has been over 9 % since 1990, reflecting a doubling in about 8 years (Figure 5.).

Figure 5



Growth was temporarily halted during the Asian recession in 1998 but quickly resumed. The increase has been shared among international carriers such as Federal Express, Korean Air, United Parcel Service, Japan Airlines, Nippon Cargo Airlines, China Airlines, Asiana, Polar Air, Cathay Pacific, and Eva Airways and domestic carriers some of which operate internationally such as Northwest and Polar Air and Alaska, and some of which operate only instate such as Northern Air Cargo (Table 7.). (Table 7A shows total flight landings with domestic carriers that operate internationally moved to the international cargo category.)

Table 7. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL CARGO FLIGHT LANDINGS

Fiscal Year	Domestic Carriers	International Carriers	Total
1990	7,580	11,499	19,079
1991	7,077	11,772	18,849
1992	7,200	12,900	20,100
1993	6,556	12,550	19,106
1994	8,113	13,619	21,732
1995	7,990	15,373	23,363
1996	9,453	17,099	26,552
1997	11,986	19,393	31,379
1998	13,152	20,851	34,003
1999	12,892	21,040	33,932
2000	13,753	24,391	38,144
2001*	14,513	25,873	40,386

* Projection based on first half of year.
Source: Ted Stevens Anchorage International Airport

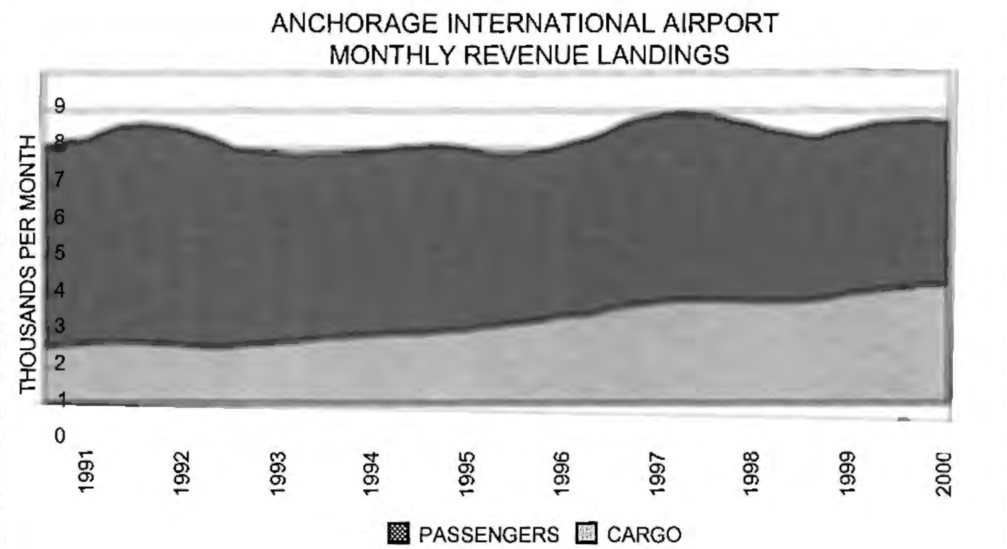
Table 7A. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL CARGO FLIGHT LANDINGS

Fiscal Year	Domestic Cargo	International Cargo	Total
1990	5,905	13,174	19,079
1991	5,626	13,223	18,849
1992	5,450	14,650	20,100
1993	4,843	14,263	19,106
1994	6,364	15,368	21,732
1995	6,225	17,138	23,363
1996	7,752	18,800	26,552
1997	10,023	21,356	31,379
1998	10,314	23,689	34,003
1999	10,544	23,388	33,932
2000	11,209	26,935	38,144
2001*	11,821	28,564	40,386

* Projection based on first half of year.
Source: Ted Stevens Anchorage International Airport

Because the number of passenger landings has dropped during the 1990's growth in total landings has been less than cargo landing growth and the cargo share of total landings has increased (Figure 6.).

Figure 6



Includes Scheduled Domestic and International Carriers
Source: Anchorage International Airport

We expect total landings to be 92,611 in fy 2001 with cargo accounting for 40,386—44% (Table 8.). This is an increase in the cargo share of landings from 24 % in 1990.

Table 8. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL TOTAL FLIGHT LANDINGS

Fiscal Year	Passenger	Cargo	Total
1990	59,352	19,079	78,431
1991	65,468	18,849	84,317
1992	71,459	20,100	91,559
1993	65,086	19,106	84,192
1994	60,617	21,732	82,349
1995	61,142	23,363	84,505
1996	55,474	26,552	82,026
1997	58,720	31,379	90,099
1998	60,539	34,003	94,542
1999	53,814	33,932	87,746
2000	54,427	38,144	92,571
2001*	52,226	40,386	92,611

* Projection based on first half of year.
Source: Ted Stevens Anchorage International Airport

The weight of cargo aircraft moving through Anchorage has increased almost as fast as the number of cargo aircraft, growing at an annual average rate of 8.4 % during the 1990s (Figure 7.). The increase has been concentrated among the international carriers (Table 9) who are expected to account for 88 % of the total traffic by weight in fy 2001. (Table 9A shows total weight with domestic carriers that operate internationally moved to international cargo category.)

Figure 7.

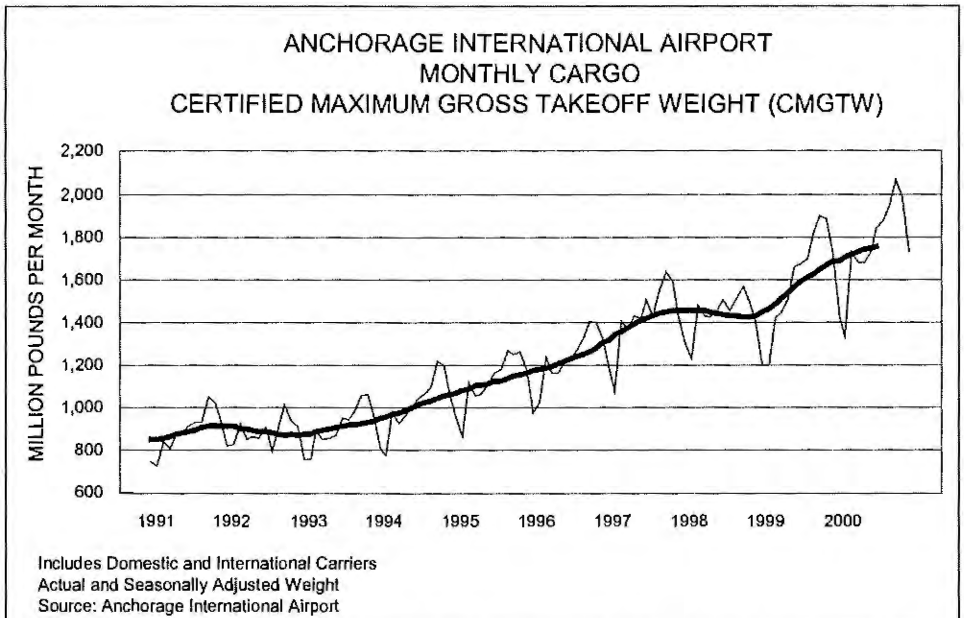


Table 9. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL CARGO FLIGHT WEIGHT (million pounds)

Fiscal Year	Domestic Carriers	International Carriers	Total
1990	1,966	8,379	10,345
1991	1,740	8,503	10,243
1992	1,897	9,068	10,965
1993	1,780	8,750	10,530
1994	1,904	9,518	11,422
1995	1,950	10,914	12,863
1996	1,954	12,155	14,109
1997	2,190	13,657	15,846
1998	2,722	14,751	17,473
1999	2,352	15,047	17,399
2000	2,584	17,684	20,268
2001*	2,588	19,119	21,707

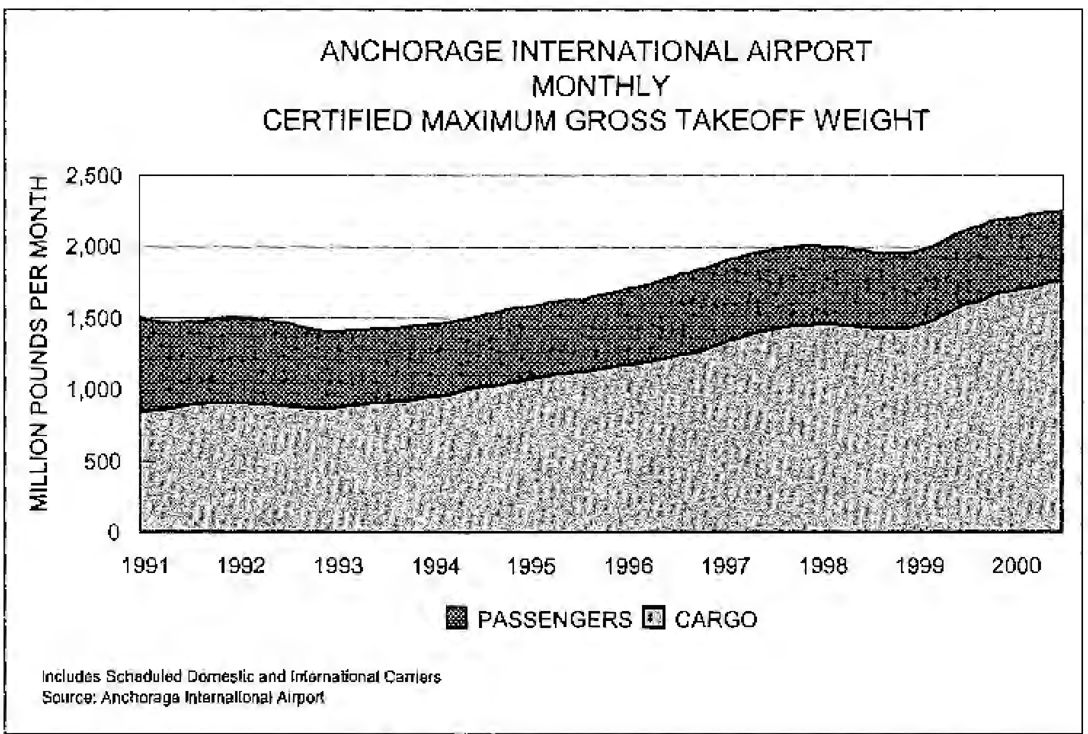
* Projection based on first half of year.
Source: Ted Stevens Anchorage International Airport

Table 9A. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL CARGO FLIGHT WEIGHT (million pounds)			
Fiscal Year	**Domestic Cargo**	**International Cargo**	**Total**
1990	N/A	N/A	10,345
1991	N/A	N/A	10,243
1992	N/A	N/A	10,965
1993	395	10,135	10,530
1994	491	10,931	11,422
1995	518	12,346	12,863
1996	563	13,546	14,109
1997	626	15,221	15,846
1998	729	16,744	17,473
1999	664	16,735	17,399
2000	750	19,518	20,268
2001*	721	20,986	21,707

* Projection based on first half of year
Source: Ted Stevens Anchorage International Airport

The cargo share of total weight is greater than its share of total landings because of the larger size of cargo aircraft (Figure 8.).

Figure 8.



In fy 1990 54 % of the weight was cargo movements. In fy 2001 we expect total weight to be 27,462 million pounds (Table 10) with 79 % being cargo movements.

Table 10. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL TOTAL FLIGHT WEIGHT (million pounds)

Fiscal Year	Passengers	Cargo	Total
1990	8,792	10,345	19,137
1991	7,876	10,243	18,119
1992	7,065	10,965	18,030
1993	6,328	10,536	16,889
1994	6,128	11,422	17,551
1995	6,106	12,863	18,969
1996	6,313	14,109	20,422
1997	6,842	15,846	22,688
1998	6,591	17,473	24,064
1999	6,261	17,399	23,660
2000	6,180	20,268	26,448
2001*	5,755	21,707	27,462

* Projections based on first half of year
Source: Ted Stevens Anchorage International Airport

The number of flights and the total weight of cargo moving through the airport is growing because of the expansion of the international air cargo markets across the Pacific and between the US and the Pacific and Europe. Most of the international cargo flights stopping in Anchorage are moving between the Pacific and cities in the US. Anchorage is the most convenient location along this route for refueling. A large share of the international movements is "gas and go" operations during which the cargo remains aboard the aircraft in transit.

A number of carriers have chosen to make Anchorage a hub location and this greatly increases the level of activity on the ground associated with each flight by these carriers. Among the important hubbing activities are customs clearance and package sorting between aircraft bound for different destinations. Additionally some carriers do maintenance in Anchorage, provide training, and base crews locally.

The international air cargo market is growing fast, but it is also very competitive and the carriers are constantly searching for more cost effective methods of operation. As a consequence carrier operations are continuously in flux. Carriers will add or drop flights, they will change their service provider or choose to provide their own services while on the ground, they will add hubbing activities or drop them, etc. Thus a description of the cargo operations on the ground is constantly changing.

In the last 2 years there have been a number of changes in air cargo operations that have generally contributed to the increase in cargo activity at the airport. Among the most important of these have been:

- The Alaska Cargoport opened in mid-2000,
- Northwest Airlines began making Anchorage a global cargo hub,
- FedEx, UPS, and Northwest obtained rights to new US-China routes through Anchorage,
- United Airlines closed its Anchorage hub,
- Reeve Aleutian Airlines went out of business, and
- FedEx began considering expansion of their hubbing facilities.

Air Taxis and General Aviation[1]

About 35 air taxi operators are based at the airport, making an estimated 32,000 round trips annually from Anchorage. A number of charter air carriers whose services are targeted toward business clients are also located or headquartered at Anchorage International Airport. The exact scope of their operations is difficult to estimate accurately because of the absence of detailed reporting of their activities either to the airport or the FAA.

About 1,000 general aviation aircraft are located at the airport, including Lake Hood, engaging in nearly 96,000 operations annually. About 700 of these general aviation aircraft are located at airport operated tiedown spaces or slips: the rest are at privately owned tie downs or slips.

Other Tenants

There are a number of government agencies with operations at the airport, some of which directly use air services and others that benefit from being close to the airport, but could be located elsewhere. The largest tenant in the former category is the Kulis Air Force Base while the largest tenants in the later category are the US Postal Service and the Southcentral Region Headquarters of the Alaska Department of Transportation.

[1] The figures for this section are taken from the 1995 ISER report entitled The Economic Contribution of the Anchorage International Airport.

4. JOBS AND PAYROLL AT THE AIRPORT

The number of jobs (annual average) in Anchorage in the air transport industry, according to the Alaska Department of Labor, was 5,872 in 1999, generating an annual payroll of $273 million (Table 11.). These represent about 2/3 of all the jobs at the airport. (A small fraction of the air transport industry jobs in Anchorage are not at the airport. Most of these are at Merrill Field, the general aviation airport of the Municipality of Anchorage.) We estimate air transport employment in 2000 will be 6,102.

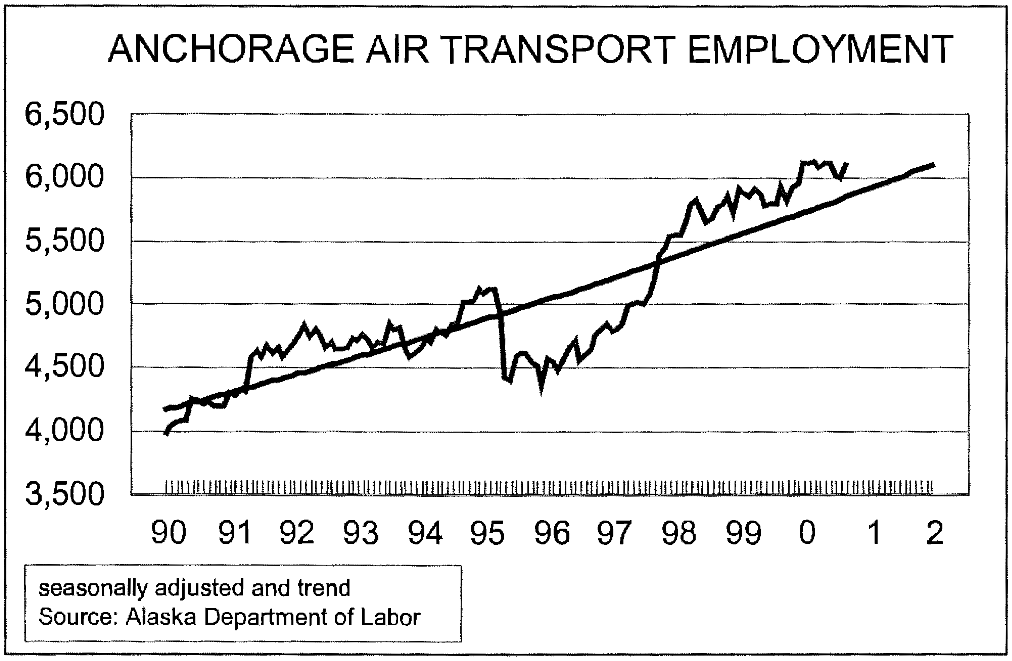
Table 11. ANCHORAGE INTERNATIONAL AIRPORT: AIR TRANSPORT INDUSTRY ANCHORAGE JOBS AND PAYROLL

Calendar Year	Air Transport Jobs	Air Transport Payroll (million $)
1990	4,149	$ 131.5
1991	4,523	$ 155.8
1992	4,721	$ 179.3
1993	4,716	$ 182.6
1994	4,864	$ 191.8
1995	4,695	$ 189.0
1996	4,650	$ 190.5
1997	5,094	$ 227.8
1998	5,720	$ 266.3
1999	5,872	$ 273.3
2000*	6,102	$293.3

* Projection based on first half of year.
Source: Alaska Department of Labor, (SIC Code 45)

Since 1990 air transport job growth has been averaging 3.2 % per year (Figure 9.), compared to 1.7 % for total wage and salary jobs in Anchorage and 2.0 % for the Greater Anchorage Area. The sharp decline in the mid 1990's was due to Markair's expansion and subsequent bankruptcy. Between 1990 and 1998 Anchorage employment increased by 16,793 wage and salary jobs—a 15 percent increase. About one in ten of those new jobs, 1,550, were in air transport—a 37 percent increase.

Figure 9.



The total number of jobs at the airport in 2000 averaged 9,119, with a slight peak during the summer months at the height of the tourist season (Table 12.). As the international cargo share of total activity has increased, the seasonality of employment has declined marginally. The total payroll was $367 million.

Total wage and salary employment in Anchorage in 2000 was 134,500 (Alaska Department of Labor, Alaska Economic Trends, April 2001). Consequently nearly 7 % of all wage and salary jobs were located at the airport.

The total labor payroll in Anchorage in 1999 (the most recent year for which the data is available) was $4,555 million. Consequently about 8 % of all payroll was generated at the airport.

Table 12. ANCHORAGE INTERNATIONAL AIRPORT: TOTAL JOBS AND PAYROLL IN 2000

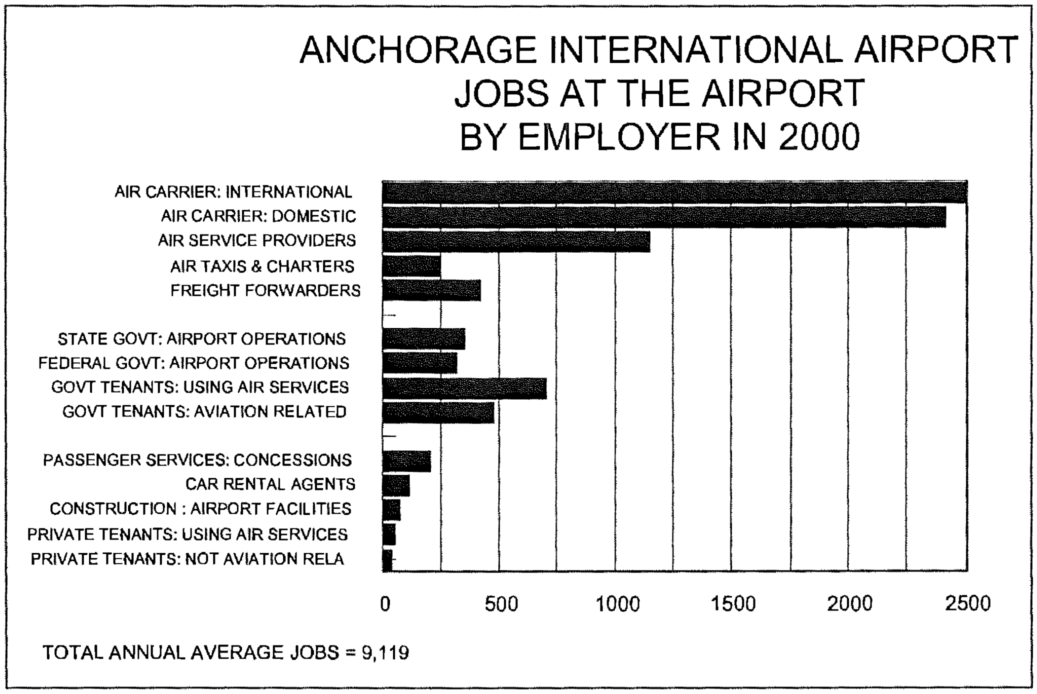
	Annual Employment	Payroll (million $)	Average Annual Earnings (thousand $)
TOTAL	9,119	$ 367	$40,246
Air Carrier International	2,502	$ 115	$45,324
Air Carrier Domestic	2,420	$ 110	$45,324
Air Service Providers*	1,152	$ 30	$26,280
Air Taxis and Charters	233	$ 7	$29,292
Freight Forwarding	422	$ 13	$31,524
State Govt Operations	351	$ 13	$36,936
Fed Govt Operations	320	$ 15	$45,768
Govt Tenants Using Air Services	709	$ 30	$42,765
Govt Tenants Aviation Related	479	$ 22	$45,768
Passenger Services Concessions	208	$ 4	$19,044
Car Rental	120	$ 2	$19,068
Facilities Construction	82	$ 4	$45,732
Private Tenants Using Air Services	59	$ 2	$25,296
Private Tenants Not Aviation Related	42	$ 2	$36,408

* Includes fixed base operators, fuel distributors, and caterers
Source: ISER estimates

Jobs By Employer

Most of the air transport jobs are with the air carriers (Figure 10.).

Figure 10.



The largest air carrier employers are FedEx, Alaska Airlines, and United Parcel Service. The largest employers are not always the carriers with the largest number of flights however because the operations of each carrier are unique. For example, some cargo carriers are "gas and go" while others operate hubs. Some purchase ground services from other carriers while others provide their own ground services and also contract out to provide services to other carriers. Some have large numbers of crew based in Anchorage while others merely lay crew over in the local hotels.

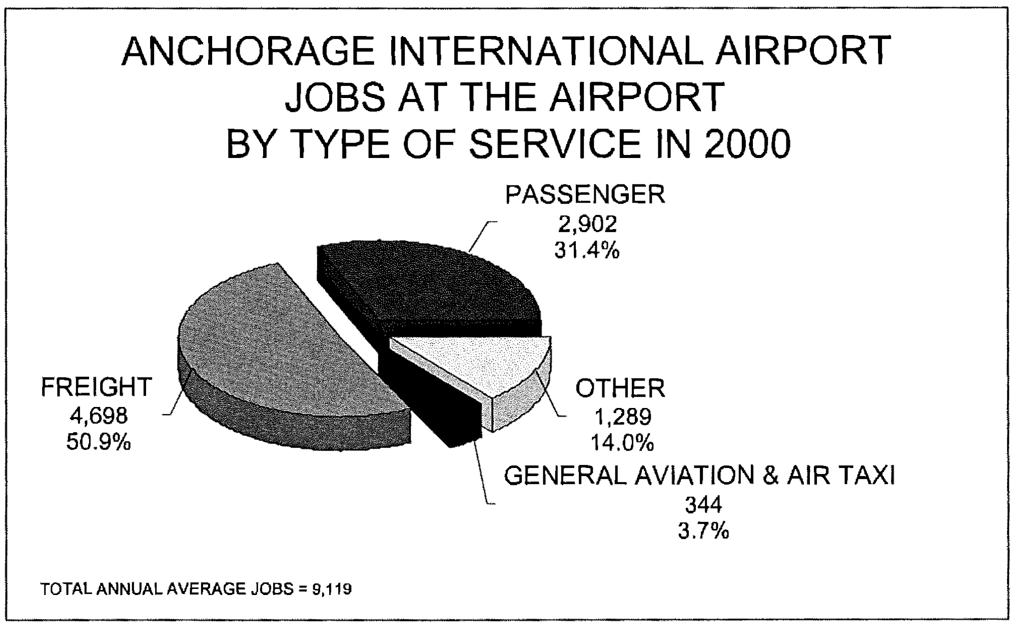
The rest of the air transport jobs at the airport are in the air service provider and the air taxi and charter industries. The air service providers give ground support to the air carriers through services such as fuel provision, catering, maintenance, baggage handling, cleaning, paperwork, warehousing cargo, garbage disposal, and bus service. (Fuel suppliers and caterers are not counted in the air transport industry by the Alaska Department of Labor but we include them in this category to simplify the presentation.) The air taxis and charters tend to be small carriers that do not have regularly scheduled flights.

The other jobs at the airport are associated with freight forwarding, various government agencies, passenger services, construction, and a small number of private tenants. These jobs as a group have not been growing as rapidly as the air transport jobs that have been driven by expansion of the international air cargo business. The private companies derive most their business from activity within the state such as the transport needs of businesses operating in rural Alaska or the number of tourist visitors. The 1,859 government agency jobs—operating the airport, running the post office, maintaining the customs and immigration station, manning Kulis Air Force Base, and working for the Alaska Department of Transportation regional office—are not particularly sensitive to the number of flights, the number of passengers, or the amount of freight coming through the airport.

Jobs By Service Provider

Most of the businesses and some of the government agencies operating at the airport are providing air transport services to either passengers or cargo. We roughly attribute 51 % of the jobs at the airport to the provision of air cargo services, both international and domestic (Figure 11.)

Figure 11.

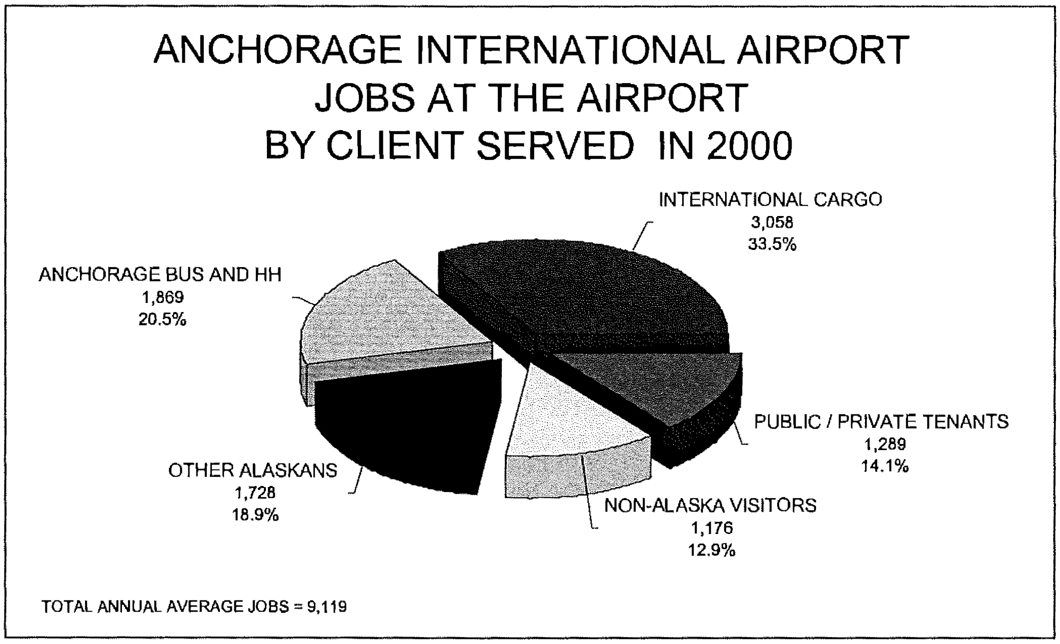


Next in order of importance is the provision of services to passengers which accounts for 31 % of all the jobs. General aviation and air taxi services together account for only about 4 % of all jobs. The remaining 14 % of the jobs consist of government and private tenants using air transport services.

Jobs By Client Served

Another useful way to characterize the jobs at the airport is based upon the client served. We can think of the airport as serving 5 major types of customers—the international air cargo industry, Anchorage residents, other Alaskans, non-Alaskan visitors, and public/private tenants. Viewed in this way, the largest share of jobs, 34 %, serves the international air cargo industry. Next in order of importance, at 21 %, are the jobs providing passenger and freight services to Anchorage residents. Other Alaskan passenger and freight needs account for another 19 %. Visitors to Alaska account for 13 % of the jobs at the airport. The remaining 14 % is accounted for by public and private tenants (Figure 12.).

Figure 12.



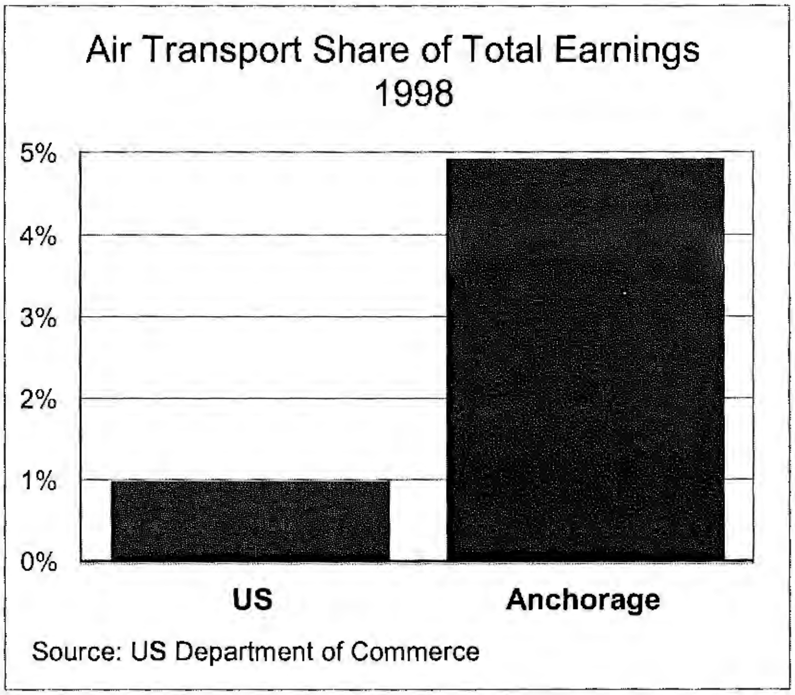
Payroll

The average wage paid at the airport varies with the type of business, with air carrier and federal government jobs being at the top end and retail concession jobs at the lower end. The average annual wage at the airport ($40,246) is higher than for all wage and salary jobs in Anchorage ($35,400 in 1998). This accounts for the payroll being a larger portion of the Anchorage total than jobs.

Indicators of Economic Importance

The airport plays a much larger role in the regional economy, measured by jobs or payroll, than virtually any other community in the US. In 1998, according to the US Department of Commerce, the air transport payroll in Anchorage was 5 % of total payroll. For the US as a whole air transport was only 1 % of the total payroll (Figure 13.). In only one community—Fort Worth-Arlington, Texas--was the air transport share greater than in Anchorage.

Figure 13.



Another indicator of the importance of air transport activity for the economy comes from the fact that 10 of the 100 largest private companies in Alaska are in the air transportation business (Table 13.). The list includes 8 air carriers, one ground service provider and one catering business. (For 2000, Reeve Aleutian and United Airlines would drop off the list, but other carriers might move into the top 100.)

Table 13. ALASKA'S LARGEST PRIVATE EMPLOYERS 10 RELATED TO AIR TRANSPORT in 1999

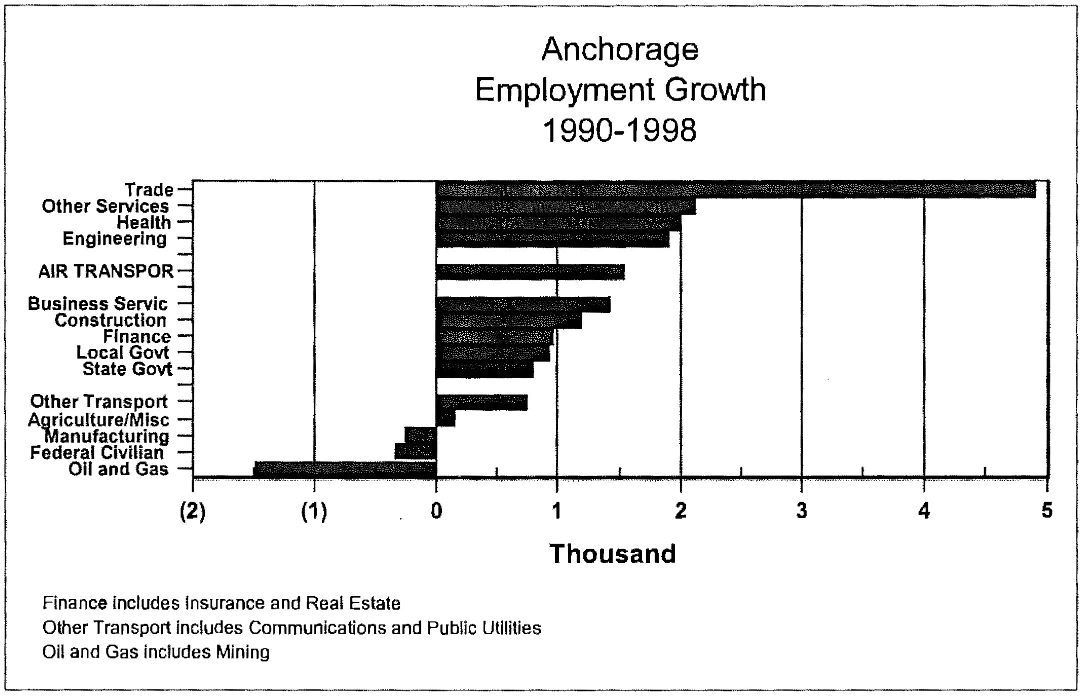
Rank	Organization	Average Annual Statewide Employment
5	Alaska Airlines	1,640
9	Federal Express	1,071
25	Era Aviation	628
53	United Parcel Service	412
56	PenAir	379
70	Northwest Airlines	348
76	Reeve Aleutian Airways	329
85	LSG Sky Chefs	289
95	Swissport Services	262
100	United Airlines	245

Source: Alaska Department of Labor, Alaska Economic Trends, August 2000.

Analysis of Growth Since 1990

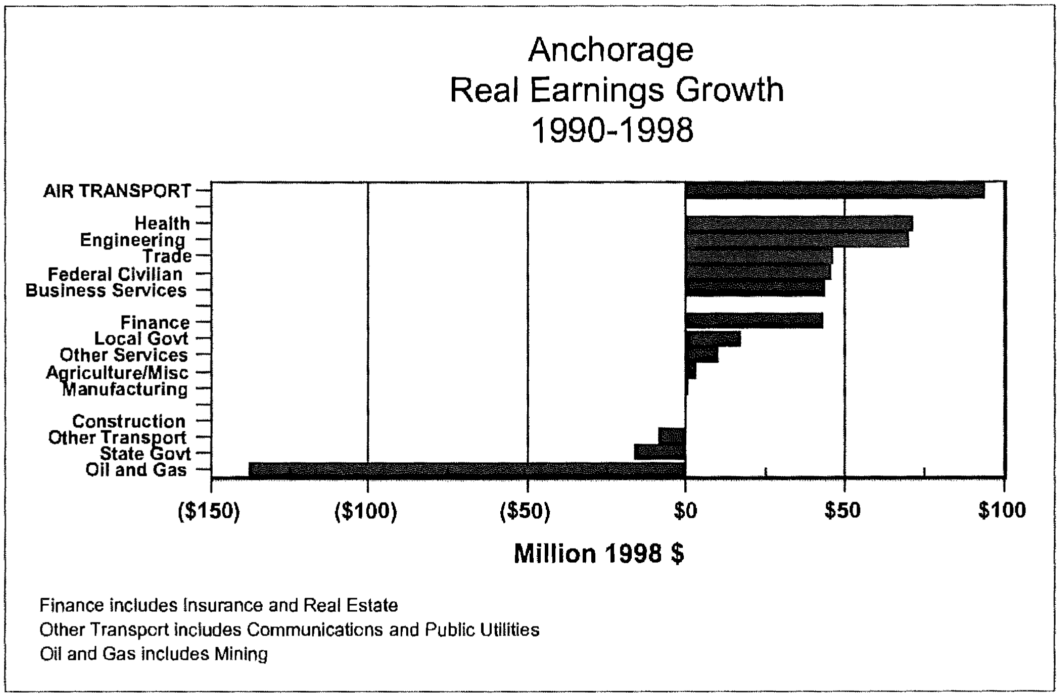
The composition of employment growth since 1990 reflects the expansion of the tourism industry, growth in consumer purchasing power from the Permanent Fund Dividend, and larger federal government transfers to the state for construction and operation of non-profit corporations. Trade, other services, health care, and engineering services accounted for most of the jobs added to the economy (Figure 14.). Notably, oil and gas, manufacturing, and federal civilian jobs all declined.

Figure 14.



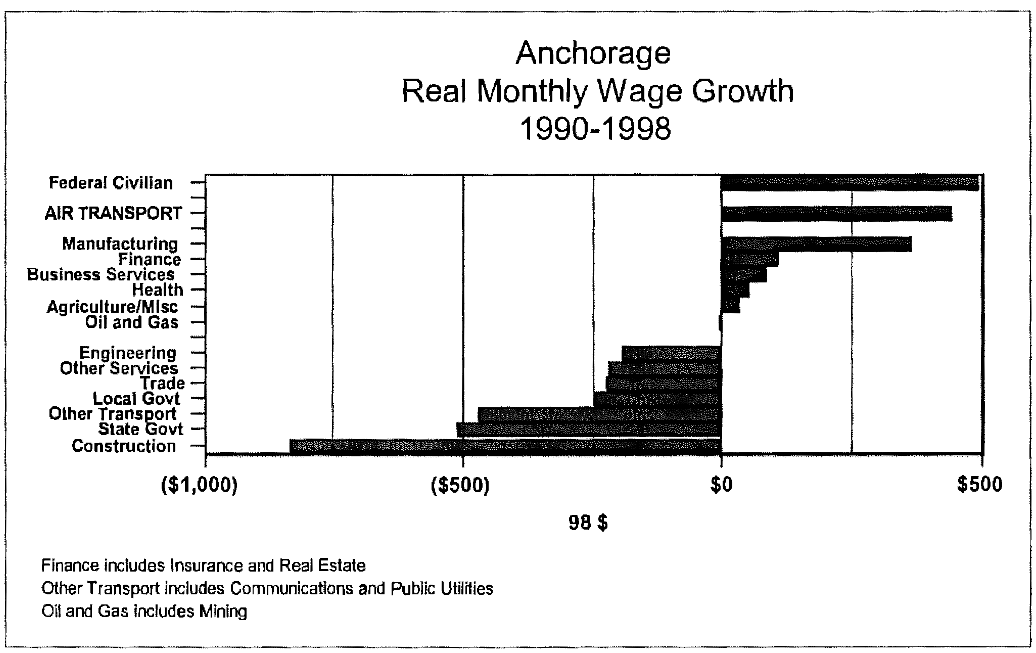
Total earnings growth over this same period was $289 million (1998 $)—7 %. Air transport real earnings, which grew by $95 million, was the largest single contributing sector to the increase (Figure 15.) as well as being the sector with the largest percent increase—55 %. The other sectors contributing significantly to increased earnings were health, engineering, trade, federal civilian, business services, and finance. Oil and gas earnings fell $138 million –28 %-and state government and other transport were also lower in 1998 than in 1990.

Figure 15.



The growth in total earnings in air transport was greater as a percentage than the growth in employment because the real monthly wage also increased in air transport by $466 (1998 $). This real wage increase was exceeded only by that of federal civilian workers (Figure 16.). The average monthly wage grew in that sector by $499.

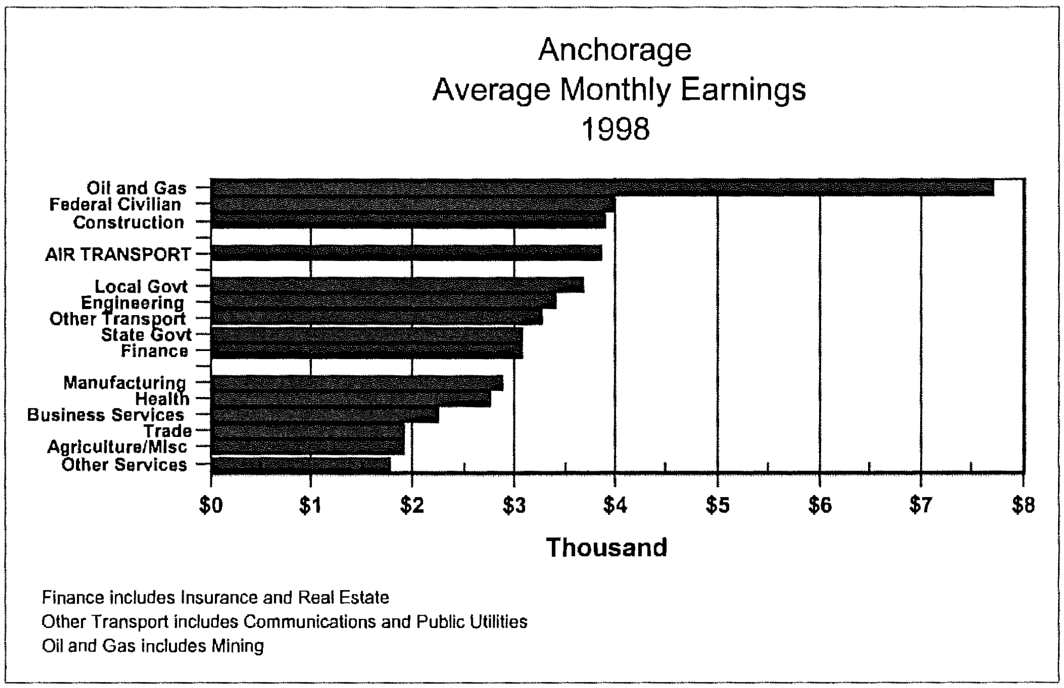
Figure 16.



The real wage also increased in manufacturing, by $368 per month, in financial services by $113 and in business services by $90 per month. Most other industries saw a drop in the average real wage over this period. For example in construction the average real wage declined by $831 per month.

The contribution of growth in air transport employment from 1990 to 1998 is further underscored by the average monthly wage paid by industry in 1998. The oil and gas industry wage was the highest (Figure 17.). Federal civilian, construction, and air transport came next in the ranking. Payroll in these industries averaged about $4,000 per month (1998 $). In contrast many trade and service jobs had a monthly wage of less than $2, 000.

Figure 17.



5. TOTAL ECONOMIC SIGNIFICANCE OF THE AIRPORT

The activities at the airport create jobs and payroll not only onsite at the airport, but also offsite in the rest of the Anchorage and Greater Anchorage economies. We consider offsite jobs that arise from airport businesses making purchases of goods and services offsite (including spending for crew layovers), as well as offsite jobs that arise from workers at the airport spending their income on goods and services within the community. The majority of these offsite jobs are in the trade and service industries.

Since the average wage paid at the airport is relatively high, the spending within the community by the typical onsite worker will be relatively high. We estimate that the 9,119 workers at the airport support 5,631 jobs offsite (Table 14.) Combining the onsite and offsite jobs results in a total of 14,759 jobs in Anchorage that are attributable to operations on airport property. These jobs account for $515 million in earnings. Based on total wage and salary employment in 2000 of 134,500 for Anchorage, nearly 11 % of the wage and salary jobs are attributable to activities taking place at the airport.

Furthermore at 14, 759 jobs, the airport, including offsite jobs, would rank as the 5th largest economy in the state after the Municipality of Anchorage, the Fairbanks North Star Borough, the Borough of Juneau, and the Kenai Peninsula Borough.

Table 14. ANCHORAGE INTERNATIONAL AIRPORT: COMMUNITY-WIDE JOBS AND PAYROLL IN 2000

	Sum	International Cargo	Anchorage Residents	Other Alaskans	Non-Alaska Visitors	Tenants
JOBS	**14,750**	**5,185**	**3,075**	**2,697**	**1,604**	**2,188**
Onsite	9,119	3,058	1,869	1,728	1,176	1,289
Offsite	5,631	2,127	1,207	970	428	899
PAYROLL	**$ 515**	**$ 178**	**$ 105**	**$ 95**	**$ 53**	**$ 84**
Onsite	$ 367	$ 126	$ 75	$ 69	$ 42	$ 55
Offsite	$ 148	$ 53	$ 30	$ 26	$ 11	$ 28

Payroll in million $
Offsite includes multiplier effect and crew layover effect
Source: ISER estimate

We estimate that 808 jobs at the airport are not directly related to air transport or providing services to the airport, or cargo or passenger operations. Nonetheless these tenants--the Post Office, the regional headquarters of the Alaska Department of Transportation, and a few private tenants—all benefit from being located at the airport.

The total economic significance of air transportation activities at the airport is measured net of these tenants. It is 13,427 jobs and $466 million of earnings (Table 15.).

Table 15. ANCHORAGE INTERNATIONAL AIRPORT: ECONOMIC SIGNIFICANCE IN 2000

	JOBS			PAYROLL (million $)		
	Onsite	Offsite	Total	Onsite	Offsite	Total
TOTAL AIRPORT	9,119	5,631	14,750	$ 367	$ 148	$ 515
Minus: Post Office, DOT*	808	515	1,323	$ 33	$ 16	$ 49
EQUALS: AIR TRANSPORT ACTIVITY	8,311	5,116	13,427	$ 334	$ 132	$ 466
Minus: Services to Anchorage Residents	1,869	1,207	3,075	$ 75	$ 30	$ 105
EQUALS: BASIC AIR TRANSPORT	6,443	3,909	10,352	$ 259	$ 102	$ 361

*Tenants that could be offsite. This category also includes some private tenants.
Offsite includes multiplier effect and crew layover effect
Source: ISER estimate

Finally we can consider that part of the activities at the airport that contributes to economic growth in the community by bringing outside money into Anchorage. This outside money is associated with the passengers moving through the airport who are not residents of Anchorage as well as the cargo that is not associated with Anchorage residents and businesses. Three of the main types of clients using the airport — International Cargo, Other Alaskans, and Non-Alaska Visitors—fall into this category.

Economists call these activities that bring money into a community basic sector activities. The Anchorage airport is unusual for a community of its size in the importance of these basic sector activities in its overall makeup. Most airports in communities of 260,000 people primarily provide services to their own residents but have only a limited reach beyond a small service territory. Generally, only airports in much larger communities might derive a large share of their employment from serving non-residents. The importance of non-resident customers is the main reason employment at the Anchorage airport is so large relative to the size of the community.

Basic sector jobs at the airport total 6,643 with a payroll of $259 million. The total economic impact in the community of these basic sector jobs is 10,352 jobs and $361 million of earnings. By way of comparison, the mining industry (primarily oil and gas) reported employment of 3,515 in Anchorage in 1999 with a payroll of $316 million. (This excludes many oil and gas industry employees who live in Anchorage and work on the

North Slope.) Total federal government employment (some of which is at the airport) was 9,850 with a payroll of $474 million. Consequently when viewed as a basic industry for the community, the airport is one of the large contributors to the strength of the economy.

6. TOTAL ECONOMIC VALUE OF THE AIRPORT

The contribution of the airport to the economy of the community and the state goes beyond the generation of jobs and payroll from providing air transport and other services. The airport is part of the infrastructure supporting the activities that provide benefits to all Alaska households and businesses. These benefits exceed the cost of these services to Alaskans, but we cannot measure the size of this net benefit. Clearly, without the airport, the cost for transporting goods and people to and within Alaska would be considerably higher than they are today. Thos would raise the cost of living throughout the state, which would reduce the well-being of virtually every household and raise costs for every business.

One of the more obvious benefits the airport provides is access to the community and state for visitors from out of state as well as from other communities within Alaska. These visitors come for a variety of reasons, such as tourism, shopping, and medical services, and while here support local businesses and stimulate employment through their expenditures. We estimate that spending in Anchorage by visitors who arrive by air annually accounts for 6,051 jobs in the community and $115 million of payroll (Table 16.). Many, if not most, of the non-resident visitors continue on to other locations within the state and impact those economies as well.

Table 16. ANCHORAGE INTERNATIONAL AIRPORT: ECONOMIC SIGNIFICANCE IN 2000 OF VISITORS ARRIVING BY AIR

	JOBS			PAYROLL (million $)		
	Onsite	Offsite	Total	Onsite	Offsite	Total
TOTAL	297	6,051	6,051	$ 6	$ 109	$ 115
Alaskans	82	2,684	2,766	$ 2	$ 51	$ 53
Non-Alaskans	215	3,070	3,285	$ 4	$ 58	$ 62

Source: ISER estimate

7. AIRPORT ECONOMIC IMPACT RULES OF THUMB[2]

Growth of international cargo traffic is causing rapid growth at the airport, and this is contributing to a strengthening and diversification of the economic base in Anchorage. Existing carriers are increasing the number of flights through Anchorage; new carriers are using the airport; and the activities in support of cargo handling are expanding at the airport. In the past, international cargo flights were mostly "gas and go" operation, with planes on the ground in Anchorage for little more than an hour. How many carriers have established bus in Anchorage and are finding it advantageous to do sorting while on the ground Once they have begun this activity, other opportunities open for further expansion, such as maintenance and training activities in Anchorage.

Relating growth in cargo moving through the airport to employment growth is difficult because of the variety of activities related to cargo handling and the different operations characteristic of each carrier. It is clear, however, that the employment effect of cargo activity is related to time on the ground. Simple illustrative rules of thumb identifying the annual average employment associated with the average flight per week with various characteristics are shown in Table 17.

Table 17. ANCHORAGE INTERNATIONAL AIRPORT: "RULES OF THUMB" JOBS PER WEEKLY FLIGHT

	INTERNATIONAL						INTERSTATE DOMESTIC		
	CARGO		PASSENGER				PASSENGER		
	[illegible]	[illegible]	[illegible]	Year Round	Year Round [illegible]	[illegible]	Year Round	Year Round [illegible]	[illegible]
GRAND TOTAL	8	17	6	243	258	81	75	85	25
AIR TRANSPORT	7.5	17	5.8	5.8	21	1.9	4.8	14.3	1.6
ONSITE	4.3	10	2.8	2.8	12.6	.9	2.5	8.5	.8
Airlines	4.3	10	2.8	2.8	[illegible]	.9	2.5	[illegible]	.8
Anchorage Crew					10			6	
OFFSITE	3.2	6.9	3.0	3.0	8.4	1.0	2.3	5.6	.8
Crew Overnights	[illegible]	[illegible]	1.2	1.1		.4	[illegible]		[illegible]
Economic Multiplier	[illegible]	[illegible]	1.8	[illegible]	8.4	.6	[illegible]	[illegible]	.8
VISITOR SPENDING				237	237	78	70	70	24
Within Anchorage				120	120	40	35	35	12
Other Alaska				117	117	39	35	35	12

Jobs are annual average equivalent employment.
Source: ISER estimates.

[2] This section is taken directly from the 1998 ISER report [illegible] Economic Significance.

For each type of flight we show the number of annual average jobs associates with air transport services that are generated onsite at the airport and offsite within the community. In addition, for passenger flights that bring non-resident into Southcentral Alaska, we show the number of jobs created by spending by these visitors within Anchorage and in the rest of Southcentral Alaska.

A new weekly cargo flight without sorting and handling would add on average about 8 jobs, 5 at the airport, and 3 offsite. (The exact number depends on the particular circumstances of the carrier. We have found that different carriers with similar umbers of scheduled flights through Anchorage can have very different numbers of local employees.) With cargo handling, one additional cargo flight per week would add on average 17 jobs, 10 at the airport and 7 offsite.

The rules of thumb for destination passenger flights are very dependent upon whether the flight and cabin crews are based in or only layover in Anchorage. For a weekly international passenger flight with crease based in Anchorage, 21 jobs would be created, including the fight crew. Thirteen of those jobs would be at the airport, and 8 offsite.

The total impact on the community of a weekly international passenger flight is much greater than simply the jobs generated from the transportation services provided to the travelers. If we assume that a new flight brings new tourist visitors into the state (rather than taking Alaskans out), the average international passenger destination flight would represent the creation of 258 average annual jobs in Alaska in the tourist industry and throughout the rest of the economy. Of these, 237 jobs would be the result of visitor spending and 21 would be due to the provision of air transport services.

Another set of rules of thumb is shown in Table 18. These show the number of jobs and the size of the payroll generated within the Anchorage economy from each $1 million in additional sales (or expenditures) by various businesses at the airport. For example, an increase in air carrier receipts of $1 million would increase employment in Anchorage by 14.2 jobs, and generate additional payroll of $.41 million.

Table 18. ANCHORAGE INTERNATIONAL AIRPORT: "RULES OF THUMB" IMPACTS OF $1 MILLION INCREASE IN ACTIVITY

ACTIVITY	EXAMPLE	JOBS (annual average)	PAYROLL (million $)
Air Carrier	Receipts from general operations increase $1 million	14.2	$.41
Flight Crew	Increase in crew spending in Anch by $1 million	21.7	$.45
Air Service Providers	Fixed Base operator sales increase $1 million	18.4	$.49
Freight Forwarder	Receipts increase $1 million	19	$.45
Air Taxi and Charter	Air charter sales increase $1 million	14.2	$.41
Govt Tenants: Using Air Services	Kulis Air Base budget increases $1 million	16.4	$.51
Govt Tenants: Not Using Air Services	Post Office budget increases $1 million	19.5	$.64
State/Federal Govt Operations	Airport operating budget increases $1 million	19.5	$.64
Concessions	Restaurant receipts increase $1 million	26.9	$.50
Car Rental Agency	Sales increase $1 million	19	$.45
Miscellaneous Support	Travel Agency receipts increase $1 million	28.6	$.71
Private Basic Industry	Sales of generic private industry increase $1 million	9.4	$.22
Construction	Airport construction budget increases $1 million	11	$.38
Alaska Resident Visitor	Visitor spending increases $1 million	24.5	$.49
Non-Alaska Visitor	Visitor spending increases $1 million	24.5	$.49

Impacts based on 1995 $.
Source: The Economic Contribution of the Anchorage International Airport, ISER, 1995